[0101] What is claimed is:

1. A system for an integrated manufacturing execution system, MES, that unifies the production data for a manufactured lot that moves from a current production line to different production lines, comprising:

a database recording data pertaining to, a manufacturing lot ID, a current MES associated with the lot ID, MES rules and transactions performed to manufacture the lot ID;

a computer of the current production line, the computer communicating with the database and with production line MESs of each of the different production lines to which the lot ID is moved to perform one of the transactions;

the database supplying each of the different production lines with the MES rules of the current production line;

the database recording transaction data in the current MES and

a memory storing the data recorded by the database.

2. The system as in claim 1 wherein, the database records transaction data from each of the different production lines, the transaction data corresponding to the MES rules of the current MES.

3. The system as in claim 1 wherein, the database records transaction data from each of the different production lines, the transaction data including; track-in, track-out data, and processing data and measurement data, which correspond to the MES rules of the current MES.

4. The system as in claim 1, and further comprising:

a production computer of each of the different production lines supplying the transaction data to the database.

5. The system as in claim 1, and further comprising:

the database recording a tool reserve to move the lot ID to a reserved tool of a different production line for the next process step.

6. A method for manufacturing capacity utilization with a unified MES, comprising the steps of

checking capacity utilization status of multiple tools for performing the next process step on a manufacturing lot;

reserving one of the tools to perform the next process step;

transferring the manufacturing lot from a current production line to a backup production line having the reserved one of the tools; and

performing the next process step in the backup production line, and collecting process data and measurement data, which correspond to the MES rules of the current production line.

7. The method as in claim 6, further comprising the step of:

storing the process data and manufacturing data of the manufacturing lot in the current production line MES.

8. The method as in claim 6, further comprising the steps of:

defaulting the manufacturing lot to the next tool in the backup production line for the next process step.

9. The method as in claim 6, further comprising the steps of:

defaulting the manufacturing lot to the next tool in the backup production line for the next process step;

checking the capacity utilization of all tools to perform the next process step; and

reserving a selected one of the tools in a different backup production line to perform the next process step.

10. The method as in claim 6, further comprising the steps of:

defaulting the manufacturing lot to the next tool in the backup production line for the next process step;

checking the capacity utilization of all tools to perform the next process step; and

reserving the tool of the current production line to perform the next process step.